

REMARKS

In the Office Action, the Examiner rejected claims 1, 2, 8, 9, and 15 under 35 U.S.C. §103(a) as being unpatentable over prior art Figure 1 of the present application in view of the Broberg patent.

Prior art Figure 1 of the present application discloses a ring laser gyroscope 10 having a block 12, a cathode 22 and anodes 24 and 26 engaging the block 12. Prior art Figure 1 of the present application also discloses a source 30 supplying a potential across the cathode 22 and the anodes 24 and 26. The source 30 biases the anodes 24 and 26 at or slightly negative with respect to the reference potential of the block 12, and biases the cathode 22 at a potential that is more negative than the potential of the anodes 24 and 26.

Figure 2 of the Broberg patent discloses a ring laser gyroscope having a block 10, a cathode 30 and anodes 17 and 21 engaging corresponding surfaces of the block 10. Figure 2 of the Broberg patent also discloses a source 50 supplying a potential to the cathode 30 and the anodes 17 and 21. The potential on the cathode 30 is positive with respect to the potential on the anodes 17 and 21. An electrically conductive material 210 is

placed on the block 10 between the cathode 30 and the anodes 17 and 21. During start up when a switch 230 is closed, the electrically conductive material 210 is connected to the anode 21.

Independent claim 1 is directed to a gas discharge tube comprising a block, a cathode, and an anode. At least a portion of the block is maintained at a reference potential. The cathode engages the block and is biased at a higher potential than the reference potential. The anode engages the block and is biased at a higher potential than the cathode.

The Examiner recognizes that prior art Figure 1 of the present application does not disclose that the cathode 22 is biased at a higher potential than the reference potential as required by independent claim 1. However, the Examiner asserts that the cathode 30 disclosed in the Broberg patent is biased at a potential that is higher than a reference potential and that, therefore, it would have been obvious to bias the cathode 22 of prior art Figure 1 of the present application at a potential that is higher than the reference potential.

There are a number of problems with this rejection. For example, the Broberg patent does not disclose and the Examiner has not explained how a

reference potential is applied to the block 10 of Figure 2 of the Broberg patent or whether such a reference potential is higher than the potential applied to the cathode 30, is lower than the potential applied to the anodes 17 and 21, or is between the potential applied to the cathode 30 and the potential applied to the anodes 17 and 21.

Therefore, the Broberg patent cannot and does not suggest biasing the cathode 22 of prior art Figure 1 of the present application at a potential that is higher than the reference potential.

Accordingly, because the Broberg patent does not suggest biasing the cathode 22 of prior art Figure 1 of the present application at a potential that is higher than the reference potential, independent claim 1 is not unpatentable over prior art Figure 1 of the present application in view of the Broberg patent.

Moreover, even if the Broberg patent were to suggest the modification of prior art Figure 1 of the present application as argued by the Examiner, the resulting modified prior art Figure 1 of the present application would not meet the limitations of independent claim 1 because independent claim 1 also recites that the anode is biased at a potential that is higher than the

reference potential and because prior art Figure 1 of the present application does not disclose that the anodes 24 and 26 are biased at a potential that is higher than the reference potential. Indeed, the anodes 24 and 26 disclosed in prior art Figure 1 of the present application are biased at a potential that is at or lower than the reference potential.

For this reason also, independent claim 1 is not unpatentable over prior art Figure 1 of the present application in view of the Broberg patent.

Furthermore, the Examiner argues that one of ordinary skill in the art would be motivated to combine prior art Figure 1 of the present application and the Broberg patent because it is advantageous for the cathode 22 disclosed in prior art Figure 1 of the present application to be at a higher potential than the block 12. However, the Examiner does not establish that this advantage is known anywhere other than in the present application, and the Examiner cannot use an advantage disclosed in the present application in rejecting the claims of the present application.

For this further reason, independent claim 1 is not unpatentable over prior art Figure 1 of the present application in view of the Broberg patent.

Independent claim 8 is directed to a gas discharge tube comprising a block, a cathode, and an anode. At least a portion of the block is maintained at a reference potential. The cathode is biased at a lower potential than the reference potential, and the anode is biased at a higher potential than the reference potential.

Prior art Figure 1 of the present application does not disclose an anode that is biased at a higher potential than the reference potential and a cathode that is biased at a potential that is lower than the reference potential as required by independent claim 8. The Broberg patent does not disclose, and the Examiner has not explained, how a reference potential is applied to the block 10 of Figure 2 of the Broberg patent or whether this reference potential is between the potential applied to the cathode 30 and the potential applied to the anodes 17 and 21.

Therefore, the Broberg patent cannot and does not suggest biasing the cathode 22 and the anodes 24 and 26 of prior art Figure 1 of the present application as recited in independent claim 8.

For this reason, independent claim 8 is not unpatentable over prior art Figure 1 of the present application in view of the Broberg patent.

Furthermore, the Examiner argues that one or ordinary skill in the art would be motivated to combine prior art Figure 1 of the present application and the Broberg patent because it is advantageous for the anodes 24 and 26 disclosed in prior art Figure 1 of the present application to be at a higher potential than the block and for the cathode 22 disclosed in prior art Figure 1 of the present application to be at a lower potential than the block. However, the Examiner does not establish that this advantage is known anywhere other than in the present application, and the Examiner cannot use an advantage disclosed in the present application in rejecting the claims of the present application.

For this reason also, independent claim 8 is not unpatentable over prior art Figure 1 of the present application in view of the Broberg patent.

Independent claim 15 is directed to a gas discharge tube comprising a cathode, an anode, a block, and a biasing electrode. The block is engaged by the cathode and anode, and the block comprises a plasma supporting passage between the cathode and the anode.

The biasing electrode overlies the passage and extends substantially between the cathode and the anode, and the biasing electrode has a bias to attract positive alkali ions.

The Broberg patent does not disclose that the electrically conductive strip 210 has a bias to attract positive alkali ions. The Broberg patent merely discloses that the electrically conductive strip 210 assists in the start up of lasing.

Therefore, the Broberg patent does not suggest adding a biasing electrode to prior art Figure 1 of the present application so that positive alkali ions are attracted to the biasing electrode as required by independent claim 15.

For this reason, independent claim 15 is not unpatentable over prior art Figure 1 of the present application in view of the Broberg patent.

Furthermore, the Examiner argues that one or ordinary skill in the art would be motivated to combine prior art Figure 1 of the present application and the Broberg patent because it is advantageous to provide the ring laser gyroscope 10 disclosed in prior art Figure 1 of the present application with the biasing electrode disclosed in the Broberg patent. However, the Examiner

does not establish that this advantage is known anywhere other than in the present application, and the Examiner cannot use an advantage disclosed in the present application in rejecting the claims of the present application.

For this reason also, independent claim 15 is not unpatentable over prior art Figure 1 of the present application in view of the Broberg patent.

Dependent claims 3, 7, 10, and 14 recite that a biasing electrode overlies the plasma supporting passage. These claims are patentable for reasons that are similar to the reasons that independent claim 15 is patentable.

Dependent claims 12, 18, 20, and 22 recite certain biasings with respect to the reference potential. Prior art Figure 1 of the present application discloses a reference potential but does not disclose the particular biasings recited in these claims. The Broberg patent does not disclose a reference potential at all and, therefore, also does not disclose the biasings recited in these claims.

Therefore, the combination of prior art Figure 1 of the present application and the Broberg patent cannot meet the limitations of dependent claims 12, 18, 20, and 22. For this reason, dependent claims 12, 18,

20, and 22 are patentable over prior art Figure 1 of the present application in view of the Broberg patent.

Dependent claim 5 recites that the biasing electrode is biased above the reference potential.

Prior art Figure 1 of the present application does not disclose a biasing electrode. The Broberg patent does not disclose a reference potential at all and, therefore, does not disclose that the electrically conductive material 210 is biased above the reference potential.

Therefore, the combination of prior art Figure 1 of the present application and the Broberg patent cannot meet the limitations of dependent claim 5. For this reason, dependent claim 5 is patentable over prior art Figure 1 of the present application in view of the Broberg patent.

Dependent claim 16 recites that at least a portion of the block is maintained at a reference potential, that the cathode is biased at a higher potential than the block, and that the anode is biased at a higher potential than the cathode.

Prior art Figure 1 of the present application does not disclose the biasing relationship recited in dependent claim 16. The Broberg patent does not disclose

a reference potential at all and, therefore, also does not disclose the biasing relationship recited in dependent claim 16.

Therefore, the combination of prior art Figure 1 of the present application and the Broberg patent cannot meet the limitations of dependent claim 16. For this reason, dependent claim 16 is patentable over prior art Figure 1 of the present application in view of the Broberg patent.

Dependent claims 24 and 25 recite certain biasing relationships.

Prior art Figure 1 of the present application does not disclose the biasing relationships recited in dependent claims 24 and 25. The Broberg patent does not disclose a reference potential at all and, therefore, also does not disclose the biasing relationships recited in dependent claims 24 and 25.

Therefore, the combination of prior art Figure 1 of the present application and the Broberg patent cannot meet the limitations of dependent claims 24 and 25. For this reason, dependent claims 24 and 25 are patentable over prior art Figure 1 of the present application in view of the Broberg patent.

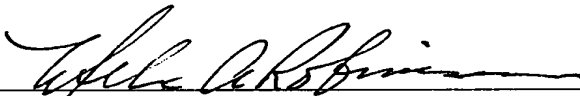
CONCLUSION

In view of the above, the claims of the present application patentably distinguish over the art applied by the Examiner. Accordingly, allowance of these claims and issuance of the present application are respectfully requested.

Respectfully submitted,

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January 7, 2004